

Mitochondrial DNA: Key to Genetic Mysteries

A WebQuest for Tracking Human Evolution

Introduction

Mitochondrial DNA has revolutionized scientists' quest to trace the evolution of humans and other species. Because it is inherited only from the mother, scientists can use it to trace the maternal lineage of a species. In this WebQuest, you will research a topic related to mitochondrial DNA (mtDNA). Then, you will create a blog post so that you can share your research with your classmates.

Task

Because of the large number of scientific discoveries that are being made with mitochondrial DNA, your teacher thought your class would learn more if students researched a variety of topics. Your task is to search the Internet for topics related to mtDNA and human (or animal) evolution. Then, choose a topic and learn all you can about it. You will write a blog post about the information you find.

Process

Use the resources listed in the Resources section to begin your research. The Web sites listed are good starting points, but further Internet research will be necessary. Record your answers to the following questions. You will use them to write a blog post at the end of the project.

1. Describe mitochondrial DNA, giving as much detail as you can.
2. Choose a topic relating to mitochondrial DNA and describe the scientific discoveries researchers have made using mtDNA. If you have difficulty finding a topic to research, your teacher may be able to suggest a topic.

Blog

Once you have completed your research, go to the blog page your teacher has set up for you on Kidblog (<http://kidblog.org/>). Write a blog post about what you have learned about mitochondrial DNA and the specific topic you have chosen. Make sure to include the sources from which you got your information. Your teacher will provide you with time to read your classmates' blog posts.

Resources

[National Institutes of Health](#)

[National Geographic](#)

[Bradshaw Foundation](#)

[Public Broadcasting Service \(PBS\)](#)

[Archaeology](#)

[The DNA Initiative](#)

Evaluation

Read this rubric to see how you will be scored on this activity.

Criteria					Points
	0	5	10	15	
Task	The task was not completed.	It appears that some effort was made to complete the task, but major ideas are missing.	The task was completed as assigned.	The task was completed with great attention to detail and thorough documentation.	
Process	The process was not followed.	The process was followed, but not all of the questions were answered.	The process was followed, and the chosen topic was relevant.	It was clear that much research went into the project. The student learned much about the chosen topic.	
Blog Post	The blog post was very short.	The blog post was of a medium length and was poorly organized.	The blog post included most but not all relevant information..	The blog was lengthy, informative, well organized, and creative.	
Total Score					